

04/07/97

15:20

CHEMTECH → 1+801+634+1584

NO. 982

D02

CHEMTECH-FORD ANALYTICAL LABORATORIES

Date: 4/ 7/97

To: North Lily Mining Company attn. Paul Spor

attn. Paul Spor P.O. Box 421 Eurėka, UT 84628

Group #: 14019 Lab #: 97-U002500 Project: SILVER CITY

Sample Desc: Well Storage Inlet

Date Sampled: 3/11/97 Date Submitted: 3/11/97 Time Sampled: 8:15 Time Received: 10:40

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED		METHOD	Analyst
INDRGANIC PARAMETERS						
Bicarbonate as HCO3, mg/L	136	. 1	3/19/97	8:30	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	3/19/97	8:30	SM 2320B	TM
Alkalinity, Solids, mg/L	67	1	3/19/97	8:30	SM 2320B	TM
Hydroxide as OH, mg/L	< 1	1	3/19/97	8:30	SM 2320B	TM
Alkalinity, Total, mg/L	111	1	3/19/97	8:30	SM 2320B	TM
Carbon Dioxide, mg/L	101	1	3/19/97	8:30	SM 4500 D	TM
Chloride (D), mg/L	148	2.5	3/14/97	15:45	EPA 325.3	AJP
Conductance, Specific, umhos/cm	904	0.1	3/13/97	10:00	EPA 120.1	KRF
Cyanide (T), mg/L	< 0.002	0.002	3/19/97	9:25		TH
Fluoride, mg/L	0.2	0.1	3/12/97	13:00	EPA 340.2	EG
Hardness, EDTA Titration, mg/L	290	25	3/17/97	9:00	EPA 130.2	TM
Hardness Index: Hard Water			•			
	< 0.0002	0.0002	3/18/97	14:00	EPA 245.1	BJP
Nitrite, Nitrogen, mg/L	< 0.005	0.005	3/11/97		EPA 354.1	BJP
Nitrate/Nitrite-Nitrogen, mg/L	0.85	0.08	3/14/97	10:14	EPA 353.1	TH
pH, units	7.30	0.05	3/11/97	11:30	EPA 150.1	LS
Phosphorus, Ortho, mg/L	0.01	0.01	3/11/97		4500-P-E	BJP
Sulfate, mg/L	100	17	3/18/97		EPA 375.4	TM
Total Dissolved Solids, mg/L	528	10	3/11/97		EPA 160.1	LS
Total Suspended Solids, mg/L	< 2.5	2.5	3/11/97		EPA 160.2	LS
Turbidity, NTU	1.14	0.05	3/11/97			LS

Approved By: Bussell Ruckman

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Date: 4/7/97

To: North Lily Mining Company attn. Paul Spor P.O. Box 421 Eureka, UT 84628

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Sample Desc: Well Storage Inlet

Date Sampled: 3/11/97 Date Submitted: 3/11/97

Time Sampled: 8:15 Time Received: 10:40

CERTIFICATE OF ANALYSIS

PARAMETER	result m		Date Analyzed	MHTHOD	ANALYST	
INORGANIC PARAMETERS						
Barium (T), as Ba, mg/L	0.05	0.01	3/12/97 11:00	EPA 200.7	LH	
Beryllium (T), as Be, mg/L	< 0.001	0.001	3/12/97 11:00		LH	
Calcium (T), as Ca, mg/L	55.2	0.1	3/12/97 11:00		LH	
Chromium(T), as Cr, mg/L	< 0.005	0.005	3/12/97 11:00		LH	
Copper (T), as Cu, mg/L	< 0.01	0.01	3/12/97 11:00		LH	
Iron (T), as Fe, mg/L	0.10	0,02	3/12/97 11:00		LH	
Magnesium (T), as Mg, mg/L	31.1	0.1	3/12/97 11:00		LH	
Manganese (T), as Mn, mg/L	< 0.01	0.01	3/12/97 11:00		LH	
Nickel (T), as Ni, mg/L	< 0.01	0.01	3/12/97 11:00		LH	
Potassium (T), as K, mg/L	3	2	3/12/97 11:00		LH	
Sodium (T), as Na, mg/L	53.7	0.1	3/12/97 11:00		LH	
Zinc (T), as Zn, mg/L	0.26	0.01	3/12/97 11:00		LH	
Antimony (T), as Sb, mg/L	< 0.002	0.002	3/14/97 8:37		EG	
Arsenic (T), as As, mg/L	< 0.005	0.005	3/21/97 8:29		EG	
Cadmium (T), as Cd, mg/L	< 0.001	0.001	3/14/97 16:15	EPA 200.9	EG	
Lead (T), as Pb, mg/L	< 0.005	0.005	3/12/97 12:11	EPA 200.9	EG	
Selenium (T), as Se, mg/L	< 0.002	0.002	3/22/97 10:58		EG	
Silver (T), as Ag, ug/1	< 0.5	0.5	3/12/97 14:26	EPA 200.9	EG	
Thallium (T), as Tl, mg/L	< 0.001	0.001	3/21/97 16:29		EG	
Cation, meq/L	7.73		, , , =====			
Anion, meq/L	8.51					

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CHEMTECH → 1+801+634+1584

NO. 982

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Date: 4/ 7/97

To: North Lily Mining Company

attn. Paul Spor P.O. Box 421 Eureka, UT 84628

Group #: 14019 Lab #: 97-U002501 Project: SILVER CITY

Sample Desc: Main Spillway

Date Sampled: 3/11/97 Date Submitted: 3/11/97

Time Sampled: 8:00 Time Received: 10:40

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	Tevlana
INORGANIC PARAMETERS					
Cation,	257				
Anion,	253			•	
% Difference, %	-0.79				
Receiving Temperature, C	5.3		3/11/97 10:40		RCG

NOTE: Sample submitted on ice.

Free cyanide was distilled prior to analysis.

Approved By: Wassell Buckme



Date: 4/ 7/97

To: North Lily Mining Company attn. Paul Spor P.O. Box 421 Eureka, UT 84628

Group #: 14019 Lab #: 97-U002501 Project; SILVER CITY

Sample Desc: Main Spillway

Date Sampled: 3/11/97 Date Submitted: 3/11/97

Time Sampled: 8:00 Time Received: 10:40

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	Date Analyzed		METHOD	ANALYST	
INORGANIC PARAMETERS							
Bicarbonate as HCO3, mg/L	185	1	3/19/97	8:30	SM 2320B	TM	
Carbonate as CO3, mg/L	168	. 1	3/19/97		SM 2320B	TM	
Alkalinity, Solids, mg/L	259	1	3/19/97		SM 2320B	TM	
Hydroxide as OH, mg/L	< 1	1	3/19/97		SM 2320B	TM	
Alkalinity, Total, mg/L	432	1	3/19/97		SM 2320B	TM	
Carbon Dioxide, mg/L	366	1	3/19/97		SM 4500 D	TM	
Chloride (D), mg/L	2,200	10	3/17/97		EPA 325.3	TM	
Conductance, Specific, umhos/cm	20,400	0.1	3/13/97		EPA 120.1	KRF	
Cyanide, Free, mg/L	0.07	0.01	3/28/97		ASTM D2036	TH	
Cyanide (T), mg/L	61	4	3/19/97		ASTM D2036	TH	
Cyanide, WAD, mg/L	63	4	3/19/97	9:25	ASTM D2036	TH	
Fluoride, mg/L	3.4	0.25	3/12/97	13:00	EPA 340.2	EG	
Hardness, EDTA Titration, mg/L	930	125	3/17/97	9:00	EPA 130.2	TM	
Hardness Index: Very Hard Water							
Mercury (T), as Hg, mg/L	0.35	0.02	3/18/97	14:00	EPA 245.1	BJP	
Nitrite, Nitrogen, mg/L	5.0	0.125	3/11/97		EPA 354.1	ВЈР	
Nitrate/Nitrite-Nitrogen, mg/L	1.26	0.08	3/14/97		EPA 353.1	TH	
pH, units	9.00	0.05	3/11/97		EPA 150.1	LS	
Phosphorus, Ortho, mg/L	0.16	0.02	3/11/97		4500-P-E	ВЈР	
Sulfate, mg/L	8,720	2500	3/18/97		EPA 375.4	TM	
Total Dissolved Solids, mg/L	17,800	25	3/20/97		EPA 160.1	LS	

Approved By:

Bussell Ruckman



Date: 4/ 7/97

To: North Lily Mining Company attn. Paul Spor P.O. Box 421

Eureka, UT 84628

Group #: 14019 Lab #: 97-U002501 Project: SILVER CITY

Sample Desc: Main Spillway

Date Sampled: 3/11/97 Date Submitted: 3/11/97

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CERTIFICATE OF ANALYSIS

PARAMETER	RESULT MDL		date Analyzed		METHOD	ANALYST	
INORGANIC PARAMETERS							
Total Suspended Solids, mg/L	6	2.5	3/11/97	11:40	EPA 160.2	LS	
Turbidity, NTU	0.75	0.05	3/11/97		EPA 180.1	LS	
Barium (T), as Ba, mg/L	0.02	0.01	3/26/97	9:53	EPA 200.7	LH	
Beryllium (T), as Be, mg/L	< 0.001	0.001	3/26/97		EPA 200.7	LH	
Calcium (T), as Ca, mg/L	396	0.1	3/26/97		EPA 200.7	LH	
Chromium(T), as Cr, mg/L	< 0.005	0.005	3/26/97	9:53	EPA 200.7	LH	
Copper (T), as Cu, mg/L	69.6	0.01	3/26/97	9:53	EPA 200.7	LH	
Iron (T), as Fe, mg/L	0.20	0.02	3/26/97	9:53	EPA 200.7	LH	
Magnesium (T), as Mg, mg/L	7.4	0.1	3/26/97	9:53	EPA 200.7	LH	
Manganese (T), as Mn, mg/L	0.02	0.01	3/26/97	9:53	EPA 200.7	LH	
Nickel (T), as Ni, mg/L	0.36	0.01	3/26/97	9:53	EPA 200.7	LH	
Potassium (T), as K, mg/L	272	2	3/26/97		EPA 200.7	LH	
Sodium (T), as Na, mg/L	5,270	0.1	3/26/97	9:53	EPA 200.7	LH	
Zinc (T), as Zn, mg/L	0.17	0.01	3/26/97	9:53	EPA 200.7	LH	
Antimony (T), as Sb, mg/L	< 0.02	0.02	3/14/97	8:37	EPA 200.9	EG	
Arsenic (T), as As, mg/L	0.40	0.05	3/21/97	8:29	EPA 200.9	EG	
Cadmium (T), as Cd, mg/L	< 0.01	0.01	3/14/97	16:15	EPA 200.9	EG	
Lead (T), as Pb, mg/L	0.13	0.05	3/15/97	9:24	EPA 200.9	EG	
Selenium (T), as Se, mg/L	0.08	0.02	3/22/97	10:58	EPA 200.9	EG	
Silver (T), as Ag, ug/l	1.240	500	3/14/97		EPA 200.9	EG	
Thallium (T), as T1, mg/L	0.02	0.01	3/21/97		EPA 200.9	EG	

Approved By: Justil Ruckman

CHEMTECH-FOR

Date: 4/ 7/97

To: North Lily Mining Company

attn. Paul Spor P.O. Box 421 Eureka, UT 84628

Group #: 14019 Lab #: 97-U002500 Project: SILVER CITY

Sample Desc: Well Storage Inlet

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CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	Date Analyzed	METHOD	Analyst
INORGANIC PARAMETERS					
% Difference, Receiving Temperature, C	4.78 5.3		3/11/97 10:40		RCG

NOTE: Sample submitted on ice.

Approved By: Mussell Kuckman

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PARAMETER	*GROUND WATER OUALITY				DETECTED IN					
	STANDARD	JUL 93	JUN 95	SEP 95	DEC 95	MAR 96	JUN 96	SEP 96	DEC 96	MAR 97
Fluoride as F	2.4	1.60	4.94	5.2	5.7	3.5	5.9	1.6	5.4	3.4
Arsenic as As	0.05	0.916	0.59	0.814	0.500	1.3	0.63	0.44	0.31	0.40
Barium as Ba	2.0	<.1	0.018	0.02	< 0.20	< 0.05	0.02	0.02	<0.2	0.02
Cadmium as Cd	0.005	<.1	<.001	< 0.01	< 0.05	< 0.025	< 0.02	0.008	<0.1	<0.01
Chromium as Cr	0.1	<1	<.007	< 0.01	< 0.05	< 0.025	0.041	0.040	<0.1	< 0.005
Copper as Cu	1.3	1110	283	255	188	162	161	102	80.2	69.6
Lead as Pb	0.015	<.2	0.066	0.100	0.100	< 0.04	0.14	0.11	1.3	0.13
*Mercury as Hg	0.002	0.141	0.0020	0.232	0.329	0.39	0.40	0.27	0.31	0.35
Selenium as Se	0.05	0.529	0.24	0.17	0.024	0.03	< 0.02	0.02	0.05	0.08
Silver as Ag	0.05	4.41	1.8	4.24	3.43	0.56	1.32	7.74	<0.1	1.240
Zinc As Zn	5.0	0.381	0.500	0.19	0.20	0.08	0.30	0.35	<0.2	0.17
Cyanide as CN-T	0.75	1480	256	300	*NOTE	163	149	91	62	61
Cyanide as CN-Wad	0.20	1264	239	291	169	153	156	93	64	63
рĤ	6.5 to 8.5	10.0	8.82	9.31	8.95	9.39	9.20	8.6	8.7	9.00

^{*} Administrative Rules For Ground Water Quality Protection - Effective Date of Last Revision - March 20, 1995

As the above table indicates, the effluent coming from off the heap leach pads showed significant reductions in several metals and total and wad cyanide levels for the last few quarters. North Lily is extremely pleased with the level of free cyanide reported this quarter 0.07 mg/L.

On March 5, 1997 North Lily submitted to the Division of Water Quality an addendum to the Closure Plan submitted September 26, 1996 requesting that excess fluids from the heap flushing process be deposed of by land application. If this request has been considered and approved North lily would like to commence deposal within the next month.

Thank you for your consideration and if you have questions, comments or concerning please contact Paul Spor at (801) 634-1584.

Sincerely.

Paul C. Spor General Manager

cc: Roger A. Foisy, Division of Water Quality Tom Munson, Division of Oil, Gas, and Mining Tom Gast, Environmental Management Services

^{*} Digested analyzed by AWAL